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CALIFORNIA
Medical and Surgical Reporter
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VOLUME 3 LOS ANGELES, CAL., MARCH, 1907. NUMBER 3

ORIGINAL ARTICLES.

FRACTURES

By WM. W. RICHARDSON, M. D., Los Angeles, Cal.
Professor of Anatomy, College of Medicine of the University of Southern California.
Read before the Pomona Branch of the Los Angeles County Medical Association, January 7, 1907.

The subject fractures, covers such a wide field that I will attempt only a few remarks upon the general principles underlying the treatment of closed fractures of the extremities and trunk.

The objects of treatment in these fractures are, *first*, to secure bony union without deformity, *second*, to restore the function of the injured member. A plan of treatment to best obtain these objects must fulfill the following conditions: *First*, it must replace and retain the fragments in good position until firm bony union has occured, and *second*, it must accomplish this purpose with the least inconvenience to the patient, in the shortest time possible, and with the least interference with the function of the limb.

Of the two objects of treatment, the second is the essential one, the restoration of function. While as a rule good function depends upon bony union, it is not an absolute dependence, for it may be obtained without union, as in patellar fractures.

To *secure* firm bony union a reasonable degree of apposition of the fragment is all that is necessary. In fact it is difficult to prevent the union of naked surfaces of bone if they lie in contact. It is not necessary even that the fragments lie in end to end apposition for union to occur. But upon the closeness of contact depends the amount of callus and especially in the neighborhood of joints a small callus is essential to good function. Callus in the healing of bone, corresponds to the cicatrice in the healing of soft parts, and as the union is by first or second intention, so is the callus large or small. To a lesser degree the amount of callus depends upon motion between the fragments, a moderate amount of motion favoring callus formation, by stimulation of the periosteum and bone. *Motion* in a fracture, unless the excursions are so great as to disturb the end to end contact, will not cause excessive callus formation, neither will it interfere with the *union* of the bones. A moderate amount of motion therefore favors rather than delays union, and is in no wise detrimental. Firm fixation of the fragments has become so well established as a cardinal principle in the treatment of fractures, that it is hard to overcome the belief in its necessity and yet every day experience shows that it is *not necessary*.

We know that union takes place in bones which cannot be fixed, as in the ribs, in fact that non union is rare here. We know that union takes place in the lower animals with no attempt at fixation. We have all seen delayed union hastened by allowing the patient to be up and about. Moreover, Lucas Championnierre in Paris, and Bardenheuer in Cologne, have *shown*, in thousands of cases, that absolute fixation is not necessary for the best of results. *Non union* of bone is due oftener to interposition of muscle or tendon than to any other cause, and is *never* due to a moderate amount of motion.

Deformity, while obnoxious, for aesthetic reasons, is chiefly objectionable as

it interferes with function. A considerable degree of deformity is, however, not incompatible with good function.

In the shaft of a long bone, a slight degree of overlapping or even some angular deformity may not interfere in the slightest with function. In the case of overlapping a shortening of considerable degree is compensated by tilting of the pelvis and no lameness results.

In *angular* deformity of a moderate degree, there is little interference with function, unless the angle which the plane of the joint forms with the shaft of the bone, be disturbed. If the line of the shaft is maintained this angle is not disturbed, but any great deviation from the normal of this angle, is followed by disturbance of function, although the joint itself may admit of its normal excursions. But even with this kind of deformity good function may be regained, especially in children, as the growth of the bone continues along the lines of its original development, and the joint reshapes itself to its new conditions.

It is in fractures of the joint ends of the bones that slight displacements cause the greatest inconvenience; a small fragment may interfere seriously with the function.

The first step towards securing a good functional result is therefore an accurate replacement of the fragments in position.

Reduction should preferably be accomplished as early as possible, before the retraction of the muscles has become increased by the secondary inflamation following the injury. As Bardenheuer has shown it is not the contraction of the muscles which is the cause of dislocation of the fragments, as active contraction cannot long endure and the muscles must soon become tired out and relax. It is the elastic retraction of all the tissues surrounding the fracture, especially of the muscles. This natural retraction of the tissues becomes gradually increased by the traumatic irritation, the hemorrhagic infiltration and secondary inflammatory reaction, and is progressively more difficult to overcome. Later the tissues become fixed in their retracted condition, by the formation of sear tissue, and by degeneration of the muscle fibers into connective tissue, and reduction is made impossible. In certain fractures, the injury to the soft parts may be so great that an early attempt at accurate reduction and maintenance in position is impossible for fear of interference with the vitality of the limb. We are *obliged*, then, to wait until the reaction and swelling have subsided, and it is usually possible to reduce the deformity after a week or ten days, as at this time the callus is yet so soft as to offer no resistance to reduction. No time is lost by this waiting, as elevation of the limb and massage have hastened the absorption of exudates, and the callus formation has proceeded as usual. At this period the inflammatory irritation has subsided and the tissues, though in a condition of retraction, are not yet fixed, and may still be stretched. Borchard advocates this as the normal procedure, and puts on no definitive retentive dressing until after ten or twelve days. He employs the interval in massage, and after the reaction and swelling have subsided the fragments are accurately reduced, under an anaesthetic if necessary, and a definite retentive dressing is applied. This is allowed to remain until the callus has become sufficiently firm to prevent displacement, when the dressing is removed and massage and movements begun. I have treated a number of leg fractures in this way with great satisfaction. As a rule, however, I believe that reduction should be accomplished as early as possible, and maintained in such manner as will not interfere with massage and movements.

The number of cases is very small in which sufficiently accurate reduction cannot be accomplished by mechanical measures alone. By sufficiently accurate I mean, such position as will not interfere with function.

In fractures of the shaft of long bones, bloody intervention is rarely necessary excepting in multiple fractures or in case of rebellious loose fragments, or

fragments pressing upon important structures as vessels or nerves.

In fractures of the joint ends of bones greater accuracy of reduction is necessary, and as the fragments are small and under less control, bloody intervention for their replacement or removal is often necessary. Especially in the fractures of the elbow and shoulder joints, the replacement or removal of these small fragments is occasionally demanded and should not be neglected.

The intervention of soft parts between the fragments does not necessitate in every case their operative removal as they may be, and frequently are, absorbed, and union, though delayed, is not prevented. The absence of crepitus between freely movable fragments does not indicate an operation for the removal of possible intervening tissues as I have repeatedly seen fractures of the femur unite readily in which no crepitus could be obtained. It is in fractures of the joints, therefore, that the operative treatment comes into its rights, and especially in patellar and olecranon fractures. I am convinced that every fracture of the patella in which separation is so great as to interfere with the active extension of the leg, and in which the necessity of preserving the function of the limb is present, should be treated by open operation and suture.

It is not the fracture of the bone itself which is the cause of disability, as the patella is not a necessary part of the extension apparatus of the leg. It is the tearing of the extension tendon which passes over, and especially to the sides of the patella, which annuls the function of the extensor muscles. Suture of the patella and especially suture of these lateral expansions of the tendons, is the only method of assuring perfect function in the shortest time possible.

Now as to the maintainance in position of the fragments of a fracture when reduction has been accomplished.

It is here that the paths diverge, of those, who regarding firm bony union in good position, as the sine qua non of success, in disregard of the injury to the soft parts, place the limb in fixed immobilizing dressing, and until definitive healing of the bone has occured, make no effort to restore the function of the limb; and on the other hand of those who, like Lucas Championnerre, regarding function as of paramount importance, discard all fixed dressings and depend upon position and early massage and movements, to secure a good functional result, with less regard for accurate position. That function depends to a great extent upon position is unquestionable, but to sacrifice the future freedom of movement in the muscles and joints by long continued immobilization, is absurd and unnecessary.

Whils non union and deformity are a frequent cause of disturbed function they are by no means the only cause, and though firm union may have taken place in good position, yet the complete function of the limb may not be restored.

We are accustomed to look upon a fracture as an injury to the bone alone and to disregard the soft parts in the consideration of its pathology and treatment. A bone is seldom fractured without injury to the surrounding muscles, tendons and ligaments, and one of the most frequent causes of disability is the incomplete repair of these structures. By the enforced inactivity during repair of the bone, the elasticity of the soft tissues suffers. Their natural elastic retraction which is increased by the hemorraghic infiltration and traumatic irritation, causes shortening of these tissues and later they become fixed in their retracted condition by formation of scar tissue and degeneration of the muscle fibers. The shortened muscles become fixed by adhesion of the tendons to their sheaths. The capsule of the joint and the synovial membranes are shortened and adherent.

The fracture of the bone may have healed faultlessly and yet the limb cannot regain its function.

That method of treatment is ideal which will maintain reduction, though without firm immobolization, and at the same time will permit those measures

which prevent retraction and adhesion of the soft tissues, during the progress of union of the bone. Daily massage and early passive movement hasten the absorption of inflammatory exudates and prevent adhesions, but it is upon early active movement that the rapid restoration of the physiological activity of the muscle depends.

In those fractures with little tendency to displacement a retentive dressing which is removable to permit of early massage, and passive and active movements fulfills these indications. The majority of the splints in common use will answer this purpose, and any form of splint may be made from Plaster of Paris and cardboard in such manner that it may be easily removed.

It is in fractures with a tendency to displacement upon removal of the retentive apparatus that the greatest difficulty it met. This tendency to displacement, as we have seen, is due chiefly to the retraction of all the soft tissues in relation to the fractured bone.

For those fractures in which this retraction causes shortening by overlapping of the fragments, as best exampled in fractures of the shaft of the femur, the principle of permanent extension is unquestionably the best. This principle first introduced by the American surgeon, Gordon Buck, in treatment of fracture of the femur by means of adhesive plaster and weights, has received universal acceptance in the treatment of this fracture.

That the same principle could be as successfully applied in the treatment of all fractures of the extremities, was not conceived, until Bardenheuer of Cologne, elaborated his "Extensions-Behandlung." For over twenty years he has been preaching and practicing permanent extension and, though his methods are recognized and practiced to a great extent throughout Europe, America, the birthplace of extension treatment, has not extended the practice beyond its original application to fractures of the femur.

I had the pleasure two years ago of studying Bardenheuer's method in the Burger Hospital in Cologne, and I was surprised to find, that what had seemed in the reading, so complicated, was in fact so simple and easy of execution.

That the principle of permanent extension is correct no one may gainsay. The constant extension overcomes the elastic retraction of the tissues which is the chief obstruction to reposition of the fragments. As the force is applied gradually and persistently reduction is accomplished without violence and without pain. The accurate and immediate reduction which this method permits, reduces to a minimum the irritation from the fracture and the consequent effusion of blood and lymph. The equal pressure from all sides by the extended muscles, tendons and ligaments favours the rapid absorption of these effusions about the fracture, or within the joints. The tense tissues act also as splints, pressing the fragments into position and holding them firmly. The accurate adaption shortens the time of union and favours a small callus, which is desirable in the neighborhood of joints. Of no less importance is the diminished pressure between articular surfaces, preventing the irritation which leads to adhesion and anylosis. Permanent extension also fulfills the second condition of a successful treatment, in that it permits massage and movements to be carried out during the callus formation. The extension being a constantly acting force, movements both passive and active may be executed without dislocation of the fragments, or if a slight displacement is caused it is immediately reduced, the force continuing in operation.

The advantages of active or passive movement are appreciated at once the nourishment of all the tissues is promoted, oedema is prevented by good circulation of the blood and lymph, and the elasticity of the muscles is retained and atrophy and inflammatory adhesions are prevented. Even greater is the advantage to the joints, as the elasticity of the muscles and ligaments is retained and

adhesions of the joint surfaces and the capsule are prevented. Movements must be commenced early, at first passive and then active; but Bardenheuer lays stress upon the necessity of active movement as early as possible. He advises that movements active or passive be begun in fractures of the wrist and ankle from the fifth day on, in elbow fractures after the tenth or twelfth day, in fracture of the humerus on the eighth or tenth day and in hip or knee fractures after the third week. These movements are carried on twice daily beginning gradually and with short excursions. The appearance of pain indicates the limit of the excursions.

These in general are the principles of Bardenheuer's Extension's Behandlung and it fulfills all of the conditions of an ideal treatment excepting possibly that of—the least inconvenience to the patient—in all fractures of the lower extremity and in many of the upper, rest in bed is a necessary part of the treatment, as the extremity lies directly upon the bed with no splints whatever. For fractures of the upper extremity he has devised apparatus in which the part of weights is taken by springs, which answer the same purpose with equal success. That Bardenheuer's treatment does fulfill all the conditions is shown by his results. He has treated over 10,000 fractures without one pseudarthrosis, excepting only in the neck of the femur. Even delayed union has been rare and thenthe fault lay in interposed tissue which required time for absorption.

The early and more complete restoration of function more than counterbalances any increased inconvenience to the patient from the enforced rest in bed.

For the particular application of the extension treatment to individual fractures I must refer you to his work Die Technik der Extensionsverbande I will only say that the extension is made in most cases by adhesive straps and weights as in Bucks extension, but that in addition to the longitudinal pull, lateral or antero posteror displacements are corrected by correspondingly placed extension.

A few particulars of technic are at once noticeable in his clinic. The amount of weight applied in the longitudinal direction is much greater than is usually applied e-g to the adult femur fifty pounds is attached. These great weights are permitted without injury, from the manner of applying the adhesive which in every case runs much beyond the fracture and includes the joint above it.

For the successful application of Bardenheuer's treatment to all fractures, a hospital with a personnel trained in its application is a necessity but I am convinced that much of his tenhnic can be used to advantage in the conditions which pertain to private practice.

In closing I wish to mention an appliance which has been of the greatest service to me in treating all fractures of the lower extremity, but especially for the purpose for which it was devised. I refer to the Hodgin's splint with which you are probably all acquainted. In fractures of the femur at any point, it affords to the patient the greatest comfort of any devise I know, and in the hands of one versed in its application it yields results equal to any other method. The degree of extension which can be obtained is limited only by the endurance of the patient. And the elevation favors circulation and permits greater freedom of movement to the patient than the Bucks extension. The limb is moreover accessible to massage movements, and the slight degree of flexion at the knee, prevents any danger of hyper extension.

In fractures of the leg the splint may be used with extension if necessary, or as a swing alone, affording the patient much comfort and relief from the weight of a heavy cast or splint, and he is enabled to move more freely in bed without disturbing the fracture.

It is equally useful for the same purpose in wounds of the soft parts and after amputation.

THE URINE

A lecture delivered by THEODORE G. DAVIS, Ph. G., M. D., Los Angeles
Professor of Clinical Medicine in the College of Physicians and Surgeons, Los Angeles, Cal.

The urine is a fluid of very complex composition which depends partly upon the quality and quantity of the blood passing through the kidneys and partly upon the condition of the secreting cells in the kidneys. That the urine must of necessity have a complex composition is evident when we recall that through this organ is eliminated some of the end products formed in the various tissues and organs of the body as well as the products of bacterial fermentation in the intestinal tract, foreign substances taken with food, the products of diseased organs, the toxines of infectious diseases, etc.

As a rule when the quantity of urine is increased, the percentage of solid materials decrease; yet the percentage of solids nearly always remains within certain limits rarely going above two and one-half per cent. or being less than three-tenths of one per cent. Of course, in pathological urines the specific gravity may be greater, over four per cent. even—but a specific gravity approaching 1.030 should lead you to think of diabetes mellitus oif associated with thirst and polyuria.

Urine usually has an acid reaction attributed to the presence of the acid phosphates, particularly acid sodium phosphate. This acidity may be increased by other acid compounds and organic acids. Observations indicate that the reaction varies greatly with the food ingested. In the herbivora and those who use a vegetable and cereal diet, the urine is usually alkaline to litmus, but may be acid to other indicators, due to the presence of uric, hippuric and other organic acids. In the carnivora or in children living upon the mother's milk, a purely animal diet, or during starvation, the urine becomes acid. Many acids are produced by the oxidation of carbohydyates and proteids, among which are sulphuric, phosphoric, uric, hippuric, oxalic and the oxyaromatic acids. Just what part these acids play has not been decided.

Variations in reaction may be due to diet and to digestion. While the acidity is highest in the morning before breakfast it soon becomes lower and two to fours after a meal it may be alkaline, so much so that the urine is turbid from the precipitation of earthy phosphates. This depends greatly upon the diet, being greater with a cereal, and greatest with a fruit and vegetable diet, especially if accompanied by the use of the vegetable or organic acids. (Cabbage and beets with vinegar, etc.)

This clouded condition of the urine gradually disappears as the hydrochloric acid which has been engaged with the digestive functions is re-absorbed, with the products of digestion. This condition of the urine is called *phosphaturia* and was formerly believed to indicate an excessive loss of phosphoric acid and of phosphates. Chemically there is no increase but oftimes, a real decrease, and the term *alkalinuria* is more appropriate and correct. It may occur, indeed it is a marked symptom, in *gastric disorders,* where hypersecretion with motor insufficiency occurs, especially if *vomiting* follows or *lavage* be used as a method of treatment. It may also occur during diarrhea and particularly in catarrh of the colon.

It occurs after sexual excesses and in the depression following psychical exaltation of any form, hence it is frequently found in mental disease.

It is a marked symptom in that complexus of symptoms called neurasthenia especially sexual neurasthenia and Frendenburg has endeavored to have it indicate three grades, one in which a precipitate of phosphates is present when the urine is voided; one where they are precipitated by heating and another in which beside the phosphates an excess of ammonia is present, an ammonuria;

These are all evidences of prevented

metabolism. In most of these cases there is an increased *calcium output* even to three times the normal while the phosphoric acid is decreased, at times fully one-half. The calcium may exist to a considerable extent as carbonate. A similar condition occurs in the osteomalacia of nursing and sexually active women. In the latter if the administration of calcium does not benefit, and it seldom does, oophorectomy is indicated and will stop the progress of the disease. There is an intimate association between the functions of the ovaries and calcium metabolism, which we see in one form during menstruation and lactation; when the mammary gland secretes and excretes with the milk more than twelve times the amount of calcium found in the product of other glands.

If the mammary secretions are over stimulated, as may occur during active sexual life, and the secretions be re-absorbed an excess of lime may appear in the urine. This also occurs upon cessation of lactation or weaning of the child. The urine may be alkaline during inflammations especially of the urinary tract and where exudates and transudates occur in considerable quantity, as we see in severe chronic parenchymatous nephritis, pyelitis and in urethritis and cystitis. In the latter we may have great alkalinity due to the conversion of the urea into ammonium carbonate or from this being split, during the so-called alkaline fermentation into ammonium carbamate and water. The reaction of the urine is much modified by drugs, especially the alkaline salts and by calcium carbonate and hydrate or milk of lime. This is especially to be noted in artificially fed children where limes water is added to their food; the urine becoming strongly ammoniacal. The alkalinity of the urine may increase after it is voided, due to bacterial fermentative activity.

The acidity of the urine is usually not great and is with difficulty increased, yet we may find it two to five times the normal amount and accompanied by pains resembling cystitis, but without demonstratable lesions or cause. These pains are in the trigonal region, and occur in those of neurotic temperment. The urine is at the time strongly acid. The urine may be *very* acid in diabetes mellitus if it contains oxybutyric and diacetic acids. The reason it is so difficult to increase the acidity of the urine is, that the body will endeavor to protect itself against acid intoxication by an increased formation of ammoninum. This ability is less in herbivora than in carnivora and such vertebrates are more easily poisoned by the acids. Hence you would expect vegetarians to be less resistant to diabetes and more easily affected by the poisonous effects of drugs, as chloroform, etc., and this is apparently true. Occasionally a specimen of urine increases in acidity after standing a few hours, the cause is uncertain but Hammcarsten thinks it due to a reaction between the biurates and the neutral or di-basic phosphates.

As a rule a specimen of urine for examination should be taken from the mixed accumulation of twenty-four hours voiding. Sometimes a twenty-four hour specimen is not most desirable as in the diagnosis of a slight chronic nephritis, where a comparison of the urine first voided with that voided at the end of a day's work gives valuable information, also in a suspected case of cyclic albuminuria.

The Value of Urinary Diagnosis as a routine practice cannot be too strongly emphasized. The unexpected is often found, and may clear up the case.

The amount of urine considered normal varies widely. In general it depends upon the amount of water and salts to be excreted, which again depends greatly upon the fluid consumed. The functional limits of the kidneys are something enormous, varying from 900 to 1500 c. c. the usual amount of 3000 c. c. the arbitrarily fixed physiological

limit. There appears scarcely to be a pathological limit, for in diabetes mellitus a practically normal kidney may eliminate 25 litres of urine, an absolutely increased amount of the normal solids, and several hundred grams of an abnormal solid, sugar, and withstand this increased work for sometime without any sign of disease.

Normally less urine is passed during the night than during the day, the kidneys seeming to be less active during sleep; the amount being as 100 to 50 or 60 or perhaps 80. But in diseases of the liver, kidneys, and heart, producing edema, the amount of urine excreted at night is greater than during the day, it may be double, yes even five times as much and contains a greater percentage of solids, a condition called nycturia.

This does not depend, we are convinced, upon posture or position of the patient, and the circulatory changes dependent upon it. Cardiac insufficiency seems to be the underlying cause in all of the cases causing as it does, chronic passive congestion of the circulation with diminished output. *It is not found with heart disease providing the compensation be good.*

Pathological Factors Influencing Amount of Urine.

Among the factors influencing the amount of urine, I will ask your attention to, the condition of the renal parenchyma, and here a bilateral lesion is usually necessary to produce marked effect.

The general law is, the more acute the *nephritis* the less the amount of urine the more chronic the disease, the greater the amount of urine secreted. The cause of this polyuria is somewhat uncertain. It cannot be due to blood pressure alone, the *velocity* of the blood current through the kidney is of particular importance, the general law being that the amount of urine varies directly with the rapidity of the blood-flow, not to pressure alone, but upon the amount of blood flowing through the kidney in a unit of time. We have seen how this is influenced by blood pressure. The secretion of urine is also influenced by the pulse pressure or difference between the minimum and maximum blood pressure and by the difference between the blood pressure in the renal capillaries and the pressure of urine in the uriniferous tubules. That high general arterial blood pressure may cause increased secretion of urine there must be local dilatation of the renal vessels or at least absence of local vaso-constriction and here the value of caffein and similar drugs is manifest. Chronic passive congestion of the renal circulation causes a diminished output of urine and it is by relieving this renal congestion that most of the drugs called diuretics aid us in the treatment of disease.

As I have mentioned before, caffein and the allied drugs, theobromin, theophyllin and, the synthetic xanthin body. theocin, produce local dilatation of the renal capillaries while they increase the general blood pressure and, in this way, the flow of urine.

Strophanthus increases the rapidity of the blood current which favors an increase in the urinary secretion. Squills and apocynum act in a similar manner and at the same time lessen pressure in the renal capillaries. The latter has also a marked effect upon the intestinal tract, favoring elimination.

Digitalis is of the greatest service in cases *when the general blood pressure is low,* but this condition is seldom present in a pure nephritis or in nephritis associated with disease of the arteries and only in the nephritis of heart disease *after compensation fails* and it is only in this class of cases that digitalis should be used in full doses.

Do you not perceive how greatly *digitalis is misused* in diseases of the kidney? The action of the nitrites is evanescent and they must be given repeatedly. Even then they are of less value than *aconite,* which is the most satisfac- agent to lessen vaco-constriction in nephritis.

EPILEPTIC AND HYSTERIC AUTOMATISM

By JAMES T. FISHER, M. D., Los Angeles, Cal.

The occasional occurrence of a morbid mental condition which allows or impels its possessor to depart from his accustomed surroundings, walk or even journey to some distant point and there maintain a course of action that in nowise impresses as peculiar either himself or his employers, then suddenly to come to himself, awoke as it were, with a complete loss of memory as to what had occurred during the spell, is certainly most interesting to both the lay and the medical mind. Its unique and bizarre character at once appeals to the novelist as well as the medical writer. Such a condition not infrequently occurs, arising in individuals who are the unhappy possessors of epilepsy or hysteria.

These cases as a rule fall into the hands of the authorities and through this channel into the hands of the alienist.

No small amount of effort has been put forth, in a righteous endeavor to distinguish between these two morbid mental conditions, and writers from the days of the elder Charcot have striven to differentiate between the hysterical and epileptic fugue. We find ourselves at once hopelessly adrift upon a sea of speculation.

Not knowing exactly the factors at work we ascribe the morbid phenomena of physic epilepsy to irritative explosions in the higher centres of the frontal lobes which preside over the mental processes.

We equal sophistry we speak of hysteria as a disaggregation of mental processes, a doubling of the personality or a state of somnambulism.

In other words, we endeavor to establish pathologically a distinction in kind between the two types which is identical with that which exists between tweedledum and tweedledee. There seems to be so little unanimity of opinion among the observers of this class of psydric disorder that one may rationally maintain a healthy scepticism as regards any broad clinical generalizations that may be advanced.

In the hysteric scenes of ambulatory automatism, are changes of personality, lost for a longer or shorter period of time. They may be lost for weeks and no memory of this peculiar existence remains with these patients, once they have returned to their normal state. A page of the book of life has been torn out. To restore it a new attack must take place or the patient thrown artificially into the somnambulistic state. This ability to resuscitate these scenes by induced sleep is absolute proof of the hysteric rather than the epileptic character of the phenomenon.

Spratling records a very striking case in which the patient, a confirmed epileptic, experienced an ambulatory automatic episode lasting twenty-eight days. During this time the man traveled extensively in the West; visited his customers, wrote orders, sent telegrams, and engaged in various business transactions, that he afterward had no recollection of whatever.

These ambulatory episodes or fugues may in a given case be either epileptic or hysteric. The epileptic fugue in and of itself presents no peculiarities which distinguish it clinically, in many cases from the hysteric, and in the face of this fact diagnosis between the two conditions should never be attempted on the basis of this phenomenon alone.

The California

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CHARLES P. WAGAR, M. D., Managing Editor

EDITORIAL

THE BARLOW MEDICAL LIBRARY

The opening of the new Barlow Medical Library on February 7th marks an epoch in the history of the medical profession, not merely of Los Angeles, but of all Southern California; and we do not like to let an event of such importance pass uncommented upon by us, although we repeat much of what many of the profession already know.

Dr. W. Jarvis Barlow, of this city, has built and equipped a beautiful new library building and presented it to the medical profession to be cared for, developed and, above all, to be used by them. It is absolutely fire-proof, perfectly lighted and ventilated, and as free as possible from dust and noise. The furniture and fittings are simple and substantial, in keeping with the character of the building. One may see that Dr. Barlow has not merely given money, but has watched the construction of the building, and has done everything in his power to have it beautiful as well as useful. We do not pretend to describe the architecture of the interior, but will merely say that the effect of the dome rising above the clean-cut mouldings with the single line of Greek ornaments, as seen in the evening, is as fine as anything we know in modern architecture. We have seen nothing more impressive for its size in this country or in Europe.

The opening exercises were simple and appropriate. After the prayer by Dr. Bovard, President of the University of Southern California, Dr. Barlow, in a few well-chosen remarks expressed the interest he had taken in the work as the building progressed, and the pleasure he now took in presenting the deed free from all encumbrances, without restriction to all the Medical Profession. Dr. Joseph Kurtz responded as President of the Clinical Association.

Dr. Milbank Johonson, President of the Board of Trustees, congratulated the profession on the acquisition of the beautiful building already containing many volumes as a nucleus; but he particularly emphasized the fact that just because so must had been received, much needed to be done in order to have the library develop as it should. Thought and money were needed to supplement the material already in the library and to add to it so that the collection should become more and more useful. He also specially urged the doctors to take an interest in the work and to use the library.

The address of the evening was delivered by Burt Estes Howard, Ph.D. Dr. Howard dwelt upon the fact that the physician's life-long work is a continued search for truth and the ability to recognize it under its many guises; and that the Barlow Medical Library was intended to afford a free field for investigation and for the exercise and cultivation of the highest, broadest scholarship. His remarks were inspiring and most suggestive.

Dr. Edwards, Chairman of the Library Committee, explained that a Barlow Medical Library Association had been formed whose aim it is to extend the usefulness of the library in every way; to raise funds and to administer the money wisely. As the library is entirely dependent for its maintenance upon the generosity of the physicians themselves, he hoped that the majority of the

doctors will join the Association by subscribing to one of its memberships. Three memberships have been provided. A doctor may either join as a Patron, as an Annual, or as an Associate member. The Patron agrees to pay $25.00; the Annual member $10.00, and the Associate member $5.00 a year towards the support of the library. The Patrons have the privilege of electing the Trustees. It is the intention of the Trustees to have the library strong in its periodical literature. Besides having all the important journals of this country, the library will contain a good proportion of foreign journals. Dr. Edwards emphasized the fact that it was really a matter of economy for a man to join the Association, as the cost of membership was less than the price of most foreign journals.

Refreshments were served after the completion of the programme.

The result of the whole affair seems to be that the medical profession of Southern California have received a beautiful gift that requires thought and care, besides money, to use wisely and to develop for their own advantage and for the doctors who will succeed them. It remains to be seen whether the profession as a whole will respond generously to the needs of this new library, or whether they will allow a few devoted men to do all the work. Those of us who realize the imperative need of library facilities for the members of our profession if they are worthy to hold their own in comparison with doctors working in other parts of this country, will watch the development of this library with the greatest interest.

Fortunately, with such well established libraries as the New York Academy of Medicine, the Medical Library of the College of Physicians, Philadelphia, as well as several more ,for models, there is no need for trying uncertain experiments; and a trained librarian should be able gradually to make the mass of material already collected, as well as what may be acquired in the future, quickly available. And if the library administration is liberal in its policy, entirely free from Chauvinism, as it certainly will be under the guidance of such men as have already been chosen as its Trustees, its growth will be accompanied by a steady increase in usefulness and in consequent power.

It is impossible to exaggerate the importance to the medical profession of this gift; and yet, as the speaker of the evening said—"it is a fair question whether, after all, the finer and better heritage which our city and our time receives in this munificent gift is the library itself, and is not rather the spirit of altruism, the generous impulse, that prompted the donation of it."

The library is open to all members of the medical profession from 10 a. m. to 5 p. m.; and in the evenings to Patrons; from 2 to 5 p. m. on Sundays and holidays (excepting Thanksgiving, Christmas, New Year's day and 4th of July).

Following is a list of the Trustees, Chairmen of the Committees and Patrons:

Trustees— Drs. Milbank Johnson, President; Stanley P. Black, Secretary; Geo. L. Cole, B. F. Church, F. C. E Mattison, J. R. Haynes, W. A. Edwards,

Chairman of the Permanent Standing Committee—Dr. W. A. Edwards.

Educational Committee—Dr. B. F. Church.

Finance Committee—Dr. Geo. L. Cole.

Endowment Committee—Dr. John R. Haynes.

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C. P. W.

A SHEET ANCHOR IN PNEUMONIA.

By S. W. Umstot, M. D., of Hagerstown, Md.

Two years ago I began to use Antiphlogistine in the treatment of pneumonia, and it has proved my "sheet anchor" ever since. My custom is to make daily applications, and by using it in this way I am able to hold the disease in check. Antiphlogistine reduces the inflammation without reducing the patients' strength, and owing to its many virtues, is strongly to be recommended as an adjunct in the treatment of pneumonia.

A few cases follow:

Mrs. G.—Was called January 28th, 1905. An examination proved lobar pneumonia, in the upper lobe of the right lung. I applied hot Antiphlogistine and the cotton jacket. Next day the patient was doing well. I renewed the dressing daily for four days when it was discontinued, as the necessity for its use had passed away. The recovery was uneventful.

Mr. K.—Was taken ill April 12th, 1905, with his second attack of double pneumonia. I at once applied Antiphlogistine and a cotton jacket, and renewed the dressing daily. In two weeks he was sitting up, and he made an uneventful recovery.

Mrs. D.—A woman with a tubercular diathesis, was stricken with pneumonia of the right lung, December 4th, 1905. Antiphlogistine and the cotton jacket were used as in the preceding cases. I discontinued my calls in twelve days, after a complete cure.

Mrs. S.—Was called February 22nd, 1906, and found double lobar pneumonia. Applied Antiphlogistine, hot, then daily until the eighth day when the crisis was passed. Antiphlogistine was of inestimable assistance in this case.

Mr. A.—45 years old. I first saw the case April 22nd, 1906, found a double lobar pneumonia with pleurisy of the left pleura. I at once applied Antiphlogistine as hot as could be borne, and used it daily for twelve days. On the sixth day the evening temperature registered 105.80. The temperature dropped by lysis and he made a good, although slow recovery.

HYOSCINE-MORPHINE ANESTHESIA

By E. J. SMITH, M. D., Smithfield, Utah

The December issue of your valued journal contains a resume of that old but ever new subject of anesthesia, and any one of the articles contains information worth several times the price of the year's subscription.

In line with the idea advanced in such a symposium, permit me to call the attention of your readers to one form of anesthesia not mentioned and yet which *in its field* holds more of promise than those mentioned.

The combination of scopolamine-morphine for general anesthesia has been tried for the past two years, but fifteen deaths resulting from its use has thrown it into disfavor.

The subsitution of hyoscine hydrobromide for the scopolamine has robbed this anesthetic of its dangerous properties and has shown that the serious results of scopolamine anesthesia were due to impurities.

Hyoscine-hydrobromide has been used for years, uniformly good results and is a thoroughly dependable drug.

It has remarkable anesthetic qualities and has been used with success in many cases of cerebral excitement.

Combined with morphine and cactin, in the following formula:

Atropine—free hyoscine hydrobromide gr. one one-hundredths.

Thebains—free morphine sulph, gr. one-fourth.

Cactin (AACO.) gr. one-sixty-seventh. in hypodermic tablets form, (prepared by Dr. W. C. Abbott of Chicago,) it has been used with the greatest success as a general anesthetic in all kinds of major operations and obstetrical practise.

In the latter, it is a remarkable agent. It soothes nervous excitability, quiets pain so that the patient sleeps between pains and suffers very little from even severe pains.

Forceps delivery is painless, and no other anesthetic is repaired without discomfort.

After delivery, the patient sleeps quietly without resulting harm.

The bowels are not constipated by its use, the hyoscine and morphine seeming to counteract each other in this respect.

There is no shock, no vomiting following even prolonged labor or serious complications.

In major operations, this combination leaves nothing to be desired.

One tablet is given hypodermically one hour before the time of operation and the patient told to go to sleep.

A few drops of chloroform may be used to quiet patient at the beginning, but swooning is rapidly produced. Ether should not be used.

A case diagnosised before operation as a retroflexed and retroverted uterus with affection of right ovary in the adhesions, and possibly a diseased left ovary hyoscine-morphine-cactin anesthesia.

The uterus was curetted, the abdomen incised, adhesion separated, both ovaries removed and ventral fixation by flap was performed, time consumed, two hours and one-half.

Patient was perfectly relaxed, quiet, and suffered not at all from shock or vomiting, slept after rousing while being carried to bed, for twelve hours, without pain, rested well the day and night following, and made a rapid recovery.

In cases where morphine is usually used, this combination acts much better, with no resulting nausea, the dose is slightly smaller in these cases.

Pure drugs must be used, there may be some excitement following the first injection, but the patient quiets rapidly after the second.

This anesthetic is safe, free from bad results, occasions no sudden changes in pulse and respiration, the heart beating at a reduced rate of less than eighty often during the whole operation.

The dose of morphine seems large, but need occasion no alarm, the patient being easly aroused by a sharp command.

THE DOCTOR.

By C. E. Patterson, M. D.,
316 E Bridge St., Grand Rapids, Mich.

The doctor when he graduates
  Why he thinks he's just the stuff,
A long-tailed coat and stiff plug hat,
  And a cigarette to puff,
He will strut along the toniest street
  As if he owned it all—
And if the truth was really known,
  He's mighty near his fall.

He then will try to find a place
  To practice his profession,
For, in his own opinion, now
  He should lead the procession
At last he'll find a place, though not
  Just according to his wishes,
But in the neighborhood where he alights
  He's among the biggest fishes.

Now watch him buy his stock of drugs.
  And then you watch his case
He carries with him when he goes
  To visit the suffering race;
A hundred drugs, if a single one,
  He'll start with, that is sure,
And in his mind, as he has learned,
  Every one is sure to cure.

But, oh, surprise that him awaits,
  How little he'll find he knows,
And at the end of twenty years,
  Then away most drugs he throws,
And uses a little bit of sense
  Learned not from books or school,
And he sees at last when he knew so much,
  He was only a cussed fool.

—*Medical Summary.*

JUST WHAT I WANT.

Lebanon, O., October 5, 1988.

McCoy Howe Co., Indianapolis, Ind.

Your representative induced me to try a gross of your Antiseptic Sphenoids. I find them just what I want. Find enclosed $3.00, for which please send me by mail, as soon as possible, one gross of Antiseptic Sphenoids.

Yours truly,

E. C. THOMPSON, M. D.

THINGS GOOD AND BAD.

Dr. Uriel S. Boone, formerly professor of Pharmacology and Surgery, *College of Physicians and Surgeons,* St. Louis, says: "There is *one thing bad* about the grippe Its victims instead of being rendered immune by the first attack, seem to become more liable to its recurrence There is one disconcerting feature about it Its symptoms resemble those of so many far more serious maladies This country is full of people who are going about darkly ruminating, because of evidences of heart trouble, nervous prostration, dyspepsia, liver complaint and old age, "together with a plentiful lack of wit and weak hams."

"There is *one thing good* about the grippe. It yields rather readily to the "antikamnia & quinine tablet" treatment. This remedy given in one or two tablet doses, every three hours, with plenty of rest in bed, and among pleasant and quiet surroundings, will work wonders.

"If suffering from nervous headache, nervous exhaustion, general nervousness, muscular aches, irritability or insomia, administer one "antikamnia & codeine tablet" three or four times a day at regular intervals. Nothing equals this remedy in relieving the organic pains of women, and this without unpleasant after-effect. In these particular cases, prescribe one tablet every hour until three are taken."

COUGHS AND THEIR TREATMENT.

By Alex. DeSoto, M. D., and C. W. Crompton, M. D. of Wayside Mission Hospital, Seattle, Wash.

An intractable Cough!

What condition so persistently tries the patience of every physician?

Careful examination has been made, the diet regulated, and one of the innumerable prescriptions for that ailment selected, but still the cough continues.

Then more investigation, and more careful prescribing; but still after weeks that familiar cough re-echoes through your waiting-room, and you wish Mrs. Smith would change her doctor.

No such good fortune attends you, and that cough haunts you as dismal thoughts of phthisis do your patient, until you are almost determined to advise a change of climate.

It is not the object of this paper to go into details regarding the only too well-known disadvantages of most of our familiar cough mixtures. Down to that house-hold stand-by, "cod-liver oil in every form," they have proven, in the vast majority of instances, discouraging failures.

The above-mentioned remedy, which the patient considers proof positive of the doctor's having made a diagnosis of consumption, may invariably be depended upon to disarrange the digestion at least.

Cod-liver oil, once begun, must frequently be continued throughout the entire winter season.

Nor can it be shown that the ingestion of fats and oils into the system, to become oxidized when coming into contact with the oxygen in the lungs, ever does more than raise the local temperature of combustion.

Although this may prevent cold in comparatively healthy lung tissue, its therapeutic (?) effect on the inflamed pulmonary structure may be described as positively harmful.

Cough is a symptom, varying in tensity and character according to its cause.

Nor is that cause always situated within the respiratory organs themselves.

Cough is essentially a reflex act depending upon an irritation of the respiratory centre.

These sources of irritation may be sub-divided as follows:

Dropping of mucous from the posterior nares in chronic catarrh.

Polypo, enlarged uvula or tonsils, defective closure of the glottis, irritations within the larynx from whatsoever cause, malignant or otherwise.

Bronchitis, pneumonia and pleurisy.

Gastric when due to derangements of the stomach.

Cardiac disease, irritations of auditory canal, and organic diseases within the abdominal cavity.

From the foregoing causes it may be readily estimated that to arrive at the exact nature of any given case may not always be an easy matter. Nevertheless, we must relieve the patient without risk of disturbing either digestive or circulatory systems. Any remedy which will attain this object in a goodly number of cases is indeed a godsend to patient and physician, and in every sense an ideal remedy.

Not until our attention was called to Glyco-Heroin (Smith) did we become acquainted with a remedy which we have used with a most unvarying success in coughs of every description, and in patients of all ages and conditions, without the slightest unfavorable effect.

The points which recommend Glyco-Heroin (Smith) are:

1. Palatability.
2. Economy (Three to four ounces being ample for a cure of the average case).
3. Its immediate action, soothing the most trying cases.
4. Its absolute freedom from unpleasant or unfavorable effects.
5. It is not only a palliative but a curative agent.
6. The hyoscyamus it contains reaches those trying cases of dry cough

due to other causes than simple catarrhal irritation of the respiratory tract.

We are convinced that Glyco-Heroin (Smith) has no competitors in results, its action being almost specific. It will give satisfaction in every case where results may be reasonably expectd, and in many cases its beneficial effects go beyond the most sanguine expectations.

The character of the cases coming to the Wayside Mission Hospital for treatment may be imagined when it is remembered that it is essentially a charity institution; that the vast majority of patients come to us after having tried everything else. These are worthy prospectors and miners, broken in health and pocket by exposure and misfortune.

LANCET CLINIC.

SUCCESSFUL TREATMENT OF LEG ULCERS.

To ascertain the cause in the treatment of leg ulcers is of the greatest importance. A tuberculous, diabetic or syphilitic ulcer will require much closer study as to the constitutional condition than of the local treatment. Anything interfering with the venous flow, such as constipation, must be immediately corrected, and the patient's general condition looked out for. The leg should be rendered surgically clean by the generous use of sinol soap, followed by irrigation of Thiersch solution. No matter what the cause of the ulcer be, it is wise where possible, to confine the patient to bed with the foot elevated during the course of treatment; the limb should be firmly bandaged, extending from the toes to a point several inches above the ulcer. If possible, excision of the veins of varicose ulcer should be performed. Ulcers covered with unhealthy, granulating surfaces or sloughing edges, should be curetted after which thoroughly irrigated with Thiersch solution and dressed every 24 or 48 hours with a hot Thiersch pack. When the surface presents healthy granulation, applications of Bovinine pure should be made, changing them three times in 24 hours. The most careful toilet of the limb should be made at each dressing. As a rule, the basis of all chronic ulcers is made up of an unhealthy, granulating mass, consequently it is impossible to bring about a cure until this has been removed. It will be readily appreciated that an ulcer cannot absorb, consequently the great nutritive properties contained in Bovinine cannot be effective. This mode of treatment may be applied successfully to any form of ulcer no matter what its cause may be.

J. RYLE, M. D., Sanford, Conn.

PROPHYLAXIS AND TREATMENT INTERNAL DISEASES.

By Frderick Forchheimer, M. D., professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, University of Cincinnati, Cincinnati, Ohio. Coth, Price $5.00 *net. D. Appleton publisher, New York City.*

This is an eminently practical work, one which concerns itself deligently with the business in hand. It first lays down broad principles, then details the special applications of them, were possible; failing that, it indicates the proper direction for their application.

It is essentially a work of breadth. It is also essentially a work of experience. Free from dogmatism, there is the calm assurance of one of whom the path is familiar. In these days of therapeutic pessimism, it is refreshing to find a practical physician to whom the making of a correct diagnosis is but the beginning rather than the end of his craft.

Dr. Forchheimer undertook a difficult task, but we believe that he has given us a most excellent work,—one that will have a large sale to the general practitioner,—a book which has long been in demand.

A necessary adjunct and companion to each and every other medical work.

THE MANAGEMENT OF CONVALESCENCE.

In convalescence from acute disease, such as pneumonia, typhoid fever, acute articular rheumatism, etc., we are face to face with the problem of restoring the weakened organism to its normal condition. *The blood shows a state of secondary anemia,* the nutrition is lowered, the nerve and muscular tone is below par; the appetite but sluggishly answers our urging, and the digestive powers feebly respond to the demands made upon them.

It is at the dawn of convalescence, when the danger of the illness itself has passed, when the desire to live, to get strong, is highest in the patient, that the physician's reputation often hangs in the balance. Having brought the patient through an illness, many physicians are unfortunately content to rest on their laurels, and to let long-suffering "Nature" do the rest. The wise practitioner, however, knows that Nature is grateful for the proper kind of aid in these circumstances,—aid in her efforts to lead a weak organism out of the bondage of illness.

And so, the far-seeing physician will look about in his armamentarium for a drug or a combination of drugs which will restore the blood, the nutrition, the digestion, the assimilation, the appetite, the weight, and the powers of resistance of the sufferer to normal, in the quickest possible time.

Fortunately, nature has provided two chemical elements, iron and manganese, which are as necessary to the system as life itself, and which, when given in the proper amounts and in the proper forms, will carry the patient through convalescence to health. In the delicate state of the digestion of a convalescent it is of the utmost importance that the forms of iron and manganese administered be such as to become absorbed and assimilated with the least disturbance of the gastro-intestinal organs. The old-fashioned inorganic preparations of iron wich still figure in the Pharmacopoeias of various countries are totally unsuited for this purpose.

The scientific researches of Hamburger, Bunge, and others, conducted during the past twenty-five years have shown the immeasurable superiority of the organic compounds of iron and maganese. The organic compounds alone have been found to be absorbable in such amounts as to produce the desired action on the blood. Of these compounds the peptonate, which is an organic-chemical combination of iron and manganese with peptone in a solution, known as Pepto-Mangan (Gude) is the most readily absorbed, and therefore the most efficient preparation of iron-manganese known, and as such is used with the greatest benefit in convalescent anemias.

A point which is frequently lost sight of in considering the treatment of anemia, is the importance of manganese as a constituent of normal blood, and as an element ranking only next to iron in its power of building blood corpuscles and increasing the life-bearing hemoglobin of these cells.

Campani, an Italian savant, as early as 1872, demonstrated that manganese is found in the red blood cells, as well as in the serum of normal blood, and the more recent researches of Lecanu and Lheritier show that manganese forms a constant constituent of the hemoglobin molecule. Furthermore, Zaleski (Zeitschr. f. physiol. Chemie, 1904, page 449) showed that manganese enters the molecule of hemoglobin with the same readiness as does iron, and therefore it has the same direct blood-forming power as iron. But, perhaps the most important fact in connection with manganese, is that once having entered the red cell, it attracts iron to the coloring matter of the blood, as the recent investigations of Benedetti have shown (Boll. Scienc. Mediche, Bologna, June, 1905).

A consideration of the above facts will convince any unbiased physician that the preparation known as Pepto-

Mangn (Gude) is made on scientific principles, in accordance with the researches conducted by the foremost physiologists and clinicians within the past quarter of a century. It contains a combination of iron and manganese calculated to secure the highest possible bloodbuilding efficiency without in the least interfering with the digestive functions. On the contrary, Pepto-Mangan is an excellent digestive tonic, it increases the appetite and promotes nutrition. Pepto-Mangan (Gude), therefore offers in convalescence the surest, most agreeable, and most prompt road to perfect health.

UP TO DATE.

What is the use of holding on to old ideas when the present day is so full of advancement along all lines including that of the Funeral Director?

The Invalids Coach put out by Pierce Brothers & Co., 810 South Flower street, rides like a Pullman car.

It does not look like an ambulance, it is not an ambulance, and yet it does the work of an ambulance.

COCA-COLA.

Is not simply a nicely flavored syrup, but contains in a remarkable degree the tonic properties of the wonderful Erythroxylon Coca Plant of South America, which has a world-wide reputation for sustaining the vital power under conditions of extraordinary fatigue, and affords prompt relief for mental and physical exhaustion, or nervous prostration.